MOTION CONTROL

0 1 2 3 4 5 6 GRADIENTS

HYDRA AIR

U-TURN

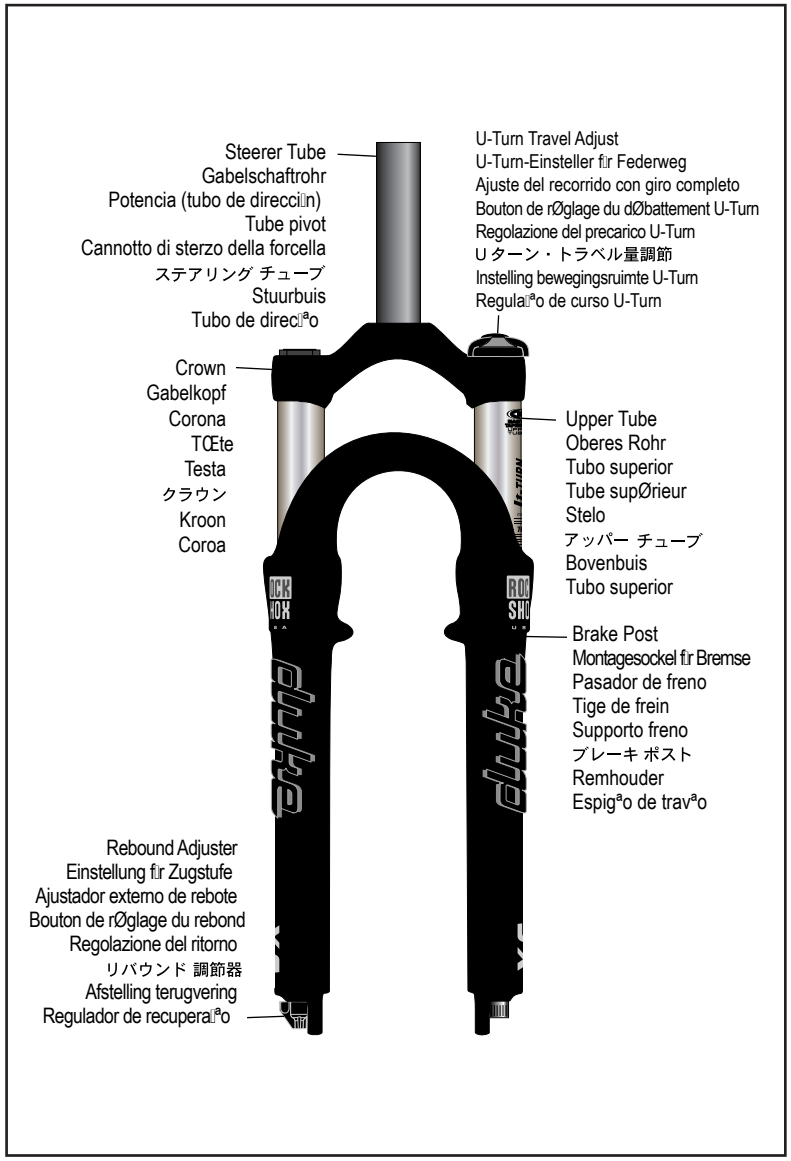
ROCK SHOX USA

duke

User Manual

POWERED BY SRAM

Congratulations! You have the best in suspension components on your bicycle! This manual contains important information about the safe operation and maintenance of your fork. To ensure that your RockShox fork performs properly, we recommend that you have your fork installed by a qualified bicycle mechanic. We also urge you to follow our recommendations to help make your riding experience more enjoyable and trouble-free.



Note: Your fork's appearance may vary from the illustrations/photos in this manual.

For the latest information about your fork visit our website at www.rockshox.com.

IMPORTANT
Consumer Safety Information

1. The fork on your bicycle is designed for use by a single rider, on mountain trails, and similar off-road conditions.
2. Before riding the bicycle, be sure the brakes are properly installed and adjusted. Use your brakes carefully and learn your brakes' characteristics by practicing your braking technique in non-emergency circumstances. Hard braking or improper use of the front brake can cause you to fall. If the brakes are out of adjustment, improperly installed or are not used properly, the rider could suffer serious and/or fatal injuries.
3. Your fork may fail in certain circumstances, including, but not limited to, any condition that causes a loss of oil; collision or other activity bending or breaking the fork's components or parts; and extended periods of non-use. Fork failure may not be visible. Do not ride the bicycle if you notice bent or broken fork parts, loss of oil, sounds of excessive topping out, or other indications of a possible fork failure, such as loss of shock absorbing properties. Instead, take your bike to a qualified dealer for inspection and repair. In the event of a fork failure, damage to the bicycle or personal injury may result.
4. Always use genuine RockShox parts. Use of aftermarket replacement parts voids the warranty and could cause structural failure to the shock. Structural failure could result in loss of control of the bicycle with possible serious and/or fatal injuries.
5. Use extreme caution not to tilt the bicycle to either side when mounting the bicycle to a carrier by the fork drop-outs (front wheel removed). The fork legs may suffer structural damage if the bicycle is tilted while the drop-outs are in the carrier. Make sure the fork is securely fastened down with a quick release. Make sure the rear wheel is fastened down when using ANY bike carrier that secures the fork's drop-outs. Not securing the rear can allow the bike's mass to side-load the drop-outs, causing them to break or crack. If the bicycle tilts or falls out of its carrier, do not ride the bicycle until the fork is properly examined for possible damage. Return the fork to your dealer for inspection or call RockShox if there is any question of possible damage (See the International Distributor List). A fork leg or drop-out failure could result in loss of control of the bicycle with possible serious and/or fatal injuries.
6. **Forks designed for use with 'v'-style brakes: o**nly mount cantilever-type brakes to the existing brake posts. Forks with hangerless style braces are only designed for "V"- style or hydraulic cantilever brakes. Do not use any cantilever brake other than those intended by the brake manufacturer to work with a hangerless brace. Do not route the front brake cable and/or cable housing through the stem or any other mounts or cable stops. Do not use a front brake cable leverage device mounted to the brace. **Forks designed for use with disc-style brakes:** follow the brake manufacturer's installation instruction for proper installation and mounting of the brake caliper.
7. Observe all owner's manual instructions for care and service of this product.

ROCKSHOX FORKS ARE DESIGNED FOR COMPETITIVE OFF-ROAD RIDING AND DO NOT COME WITH THE PROPER REFLECTORS FOR ON-ROAD USE. YOUR DEALER SHOULD INSTALL PROPER REFLECTORS TO MEET THE CONSUMER PRODUCT SAFETY COMMISSION'S (CPSC) REQUIREMENTS FOR BICYCLE STANDARDS IF THE FORK IS GOING TO BE USED ON PUBLIC ROADS AT ANY TIME.

FORK INSTALLATION

It is extremely important that your RockShox fork is installed correctly by a qualified bicycle mechanic. Improperly installed forks are extremely dangerous and can result in severe and/or fatal injuries.

1. Remove the existing fork from the bicycle and the crown race from the fork. Measure the length of the fork steerer tube against the length of the RockShox steerer tube. The RockShox steerer tube may need cutting to the proper length. Make sure there is sufficient length to clamp the stem (refer to the stem manufacturer's instructions).

⚠ WARNING

DO NOT ADD THREADS TO ROCKSHOX THREADLESS STEERERS. THE STEERER TUBE CROWN ASSEMBLY IS A ONE-TIME PRESS FIT. REPLACEMENT OF THE ASSEMBLY MUST BE DONE TO CHANGE THE LENGTH, DIAMETER OR HEADSET TYPE (THREADED OR THREADLESS).

DO NOT REMOVE OR REPLACE THE STEERER TUBE. THIS COULD RESULT IN THE LOSS OF CONTROL OF THE BICYCLE WITH POSSIBLE SERIOUS AND/OR FATAL INJURIES.

2. Install the headset crown race (29.9mm for 1 1/8" steerers) firmly against the top of the fork crown. Install the fork assembly on the bike. Adjust the headset until you feel no play or drag.
3. Install the brakes according to the manufacturer's instructions and adjust brake pads properly. Use the fork only with disc style brakes mounted through the provided mounting holes. Do not use any cantilever brake other than those intended by the brake manufacturer to work with a hangerless brace.
4. **Forks designed for standard quick releases:** adjust the front wheel quick release to clear the dropout's counter bore. The quick release nut must be tightened after the wheel is properly seated into the dropout's counter bore. Make sure four or more threads are engaged in the quick release nut when it is closed. Orient the quick release lever in front of and parallel to the lower tube in the locked position. **Forks designed for a thru-axle (not available for all forks)**: follow the installation instructions that follow for the Maxle Quick Release system.
5. Keep in mind tire clearance as you choose tires. **Maximum size is 2.4" wide or 696 mm diameter installed**. Be sure to check this diameter whenever you change tires. To do this, remove air pressure and compress the fork completely to make sure at least 5 mm of clearance exists between the top of the tire and the bottom of the crown. Exceeding maximum tire size will cause the tire to jam against the crown when the fork is fully compressed.

POPLOC REMOTE INSTALLATION

The PopLoc Remote Lockout lever allows the rider to control the movement of their suspension fork without removing their hands from the handlebars.

If needed, remove the grip, brake lever, and shifter from the left side (rider's perspective) of the handlebar. If you are unfamiliar with the removal of these items, please consult the manufacturer's instructions.

1. Slide the PopLoc onto the handlebar.
2. Re-install the shifter, brake lever, and grip on the handlebars. If you are unfamiliar with the installation of these items, please consult the manufacturer's instructions. Always adhere to the recommended torque specifications for these items.
3. Position the PopLoc as desired on the handlebar and tighten the clamp bolt to 20 in-lb (2.25 Nm)
4. Forks with PopLoc Adjust: Turn the blue compression adjustment dial counterclockwise until it stops.
5. Press the release button on the PopLoc.
6. Install the cable in the PopLoc.
7. Install the cable into the housing.
8. Feed the cable and housing into the cable stop on the fork crown.

9. Gently pull on the cable and align it with the groove in the rotating cam of the Motion Control damper.
10. Tighten the cable fixing bolt on the rotating cam to 8 in-lb (.9 Nm)

PERFORMANCE TUNING

RockShox forks can be tuned for your particular weight, riding style, and terrain.

Air Spring Tuning

The air spring system of your Duke fork can be easily tuned for your weight and riding style. Use the following instructions as a starting point. If further fine tuning is desired, follow the hints at the end of this section.

Using the chart below as a guideline, inflate the positive air chamber to the desired pressure.

Rider Weight	HydraAir Pressure
< 140 (63kg)	80-115 psi
140 - 160 (63-72 kg)	115-130 psi
160 - 180 (72-81 kg)	130-145 psi
180 - 200 (81-90 kg)	145-160 psi
>220 (99 kg)	160-180 psi

Motion Control Damping System (SL and Race Models)

IMPORTANT NOTE: WHEN STORING A BICYCLE OR FORK UPSIDE-DOWN OR ON ITS SIDE, OIL SEALED IN THE UPPER TUBE CAN COLLECT ABOVE THE MOTION CONTROL DAMPER ASSEMBLY. UPON RETURNING THE BICYCLE/FORK TO A NORMAL RIDING POSITION, INITIAL PERFORMANCE OF THE MOTION CONTROL SYSTEM MAY BE LESS THAN OPTIMAL. TO QUICKLY RETURN THE FORK TO PROPER PERFORMANCE, RETURN THE FORK TO 'OPEN' POSITION AND CYCLE THE FORK THROUGH ITS TRAVEL 10-20 TIMES. FOR INFORMATION ON RETURNING YOUR FORK TO 'OPEN' POSITION, KEEP READING!

The Motion Control Damping system allows riders to quickly adjust the feel and performance of their suspension to match riding conditions without requiring pumps or tools. This system provides for wide-ranging control of compression and rebound damping as well as 'Lock' threshold sensitivity.

Proper setup of the Motion Control Damping system provides a range of options for efficient yet comfortable performance. The instructions below describe setup and operation for both crown and remote activated forks.

'OPEN' COMPRESSION (FIG. 1)

In the 'Open' position, the Motion Control Damping system allows for maximum compliance and fork movement. The 'Open' position provides ultimate control and comfort on even the roughest terrain.

To return your fork to the 'Open' position:

- For forks with the crown-mounted blue compression adjuster, rotate the adjuster fully counterclockwise.
- For PopLoc equipped forks, press the "unlock" release button on the remote (as indicated by the open padlock icon on the button).

'LOCK' COMPRESSION (FIG. 2)

In the 'Lock' position, the Motion Control system allows for a small amount of controlled fork movement. This movement enables the front tire to track the terrain without deflecting off obstacles, allowing for better traction and steering control when compared to a complete lockout system. To activate the 'Lock', turn the crown-mounted blue compression adjuster full clockwise or press forward on the PopLoc Remote lever located on the handlebar.

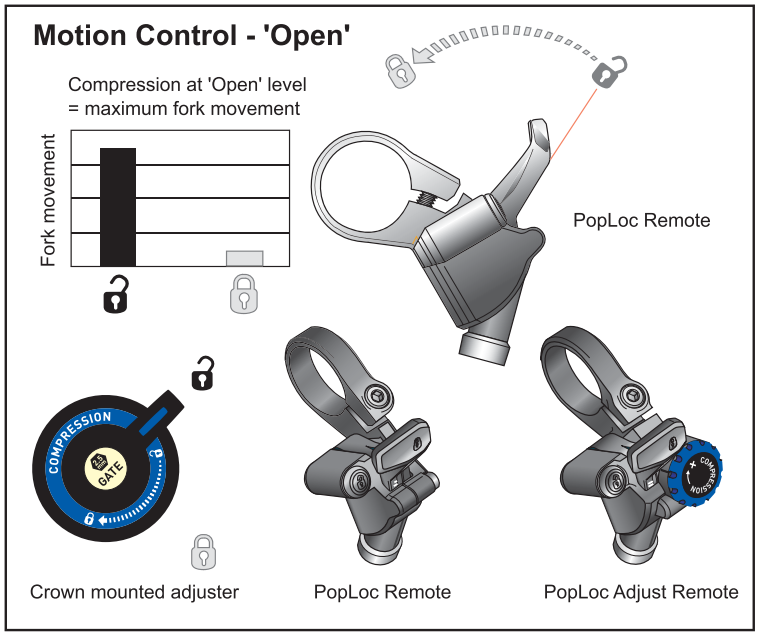


Fig. 1

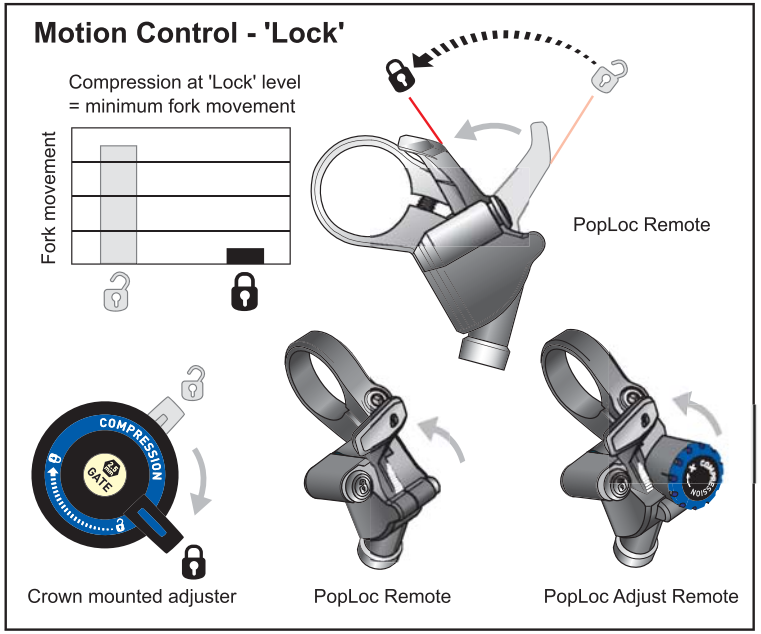


Fig. 2

FLOODGATE ADJUSTMENT (FIG. 3)

All forks with Motion Control Damping allow for fine-tuning of the 'Lock' setting. The rider can choose the point at which the 'Lock' setting can 'blow-off' and become active to force inputs such as bumps or rocks. This adjustment is made using the Floodgate. Depending upon fork model, the Floodgate is adjusted either internally (requires a 2.5mm hex wrench) or externally with the gold 'Gate' adjuster.

For crown mounted adjusters, hold the adjuster in the 'Lock' position while adjusting the internal Floodgate.

NOTE: THE FLOODGATE IS INTENDED TO ADJUST THRESHOLD OF 'LOCK' BLOW-OFF IN THE 'LOCK' MODE ONLY. WHEN PERFORMING FLOODGATE ADJUSTMENTS, ENSURE THAT THE MOTION CONTROL SYSTEM IS ADJUSTED TO 'LOCK.'

Under 'Lock', the maximum Floodgate setting results in a fork with minimal movement while the minimum Floodgate setting results in increased fork movement.

NOTE: FOR MAXIMUM FORK SENSITIVITY AND MOVEMENT, RETURN THE FORK TO THE 'OPEN' POSITION.

Floodgate settings should be used to adjust suspension compliance to medium sized bumps and resistance to rider induced suspension movement (referred to as "bob") in the 'Lock' mode. When properly tuned, the Motion Control System will resist "bob," but provide controlled suspension action in rough or aggressive terrain.

Under 'Lock', heavier riders may find better performance with maximum Floodgate settings, while lighter riders may find minimum Floodgate settings work best. Experiment with higher or lower Floodgate settings while on the trail to optimize your fork for your riding style and performance preferences.

Use the charts below to establish an initial Floodgate setting.

All settings from Maximum Floodgate (or full clockwise)

EXTERNAL FLOODGATE (RACE MODEL)

Rider weight lb (kg)	Full Turns Counterclockwise
< 120 (< 54 kg)	4 - 5
120 - 150 (54 - 68 kg)	3 - 4
150 - 180 (68 - 82 kg)	2 - 3
180 - 210 (82 - 95 kg)	1 - 2
210 < (95 kg <)	0 - 1

INTERNAL FLOODGATE (SL MODEL)

Rider weight lb (kg)	Full Turns Counterclockwise
← 120 (← 54 kg)	2.0 +
120 - 150 (54 - 68 kg)	1.5 - 2.0
150 - 180 (68 - 82 kg)	1.0 - 1.5
180 - 210 (82 - 95 kg)	0.5 - 1.0
210 < (95 kg <)	0.0 - 0.5

TIP: THE REBOUND ADJUSTER ON THE BOTTOM RIGHT FORK LEG CAN BE USED TO ADJUST INTERNAL FLOODGATE MODELS. GENTLY PULL DOWNWARD ON THE REBOUND ADJUSTER FOR REMOVAL. REMOVE THE GOLD 'GATE' DUST CAP AND INSERT THE 2.5MM HEX END OF THE REBOUND ADJUSTER INTO THE FLOODGATE. DON'T FORGET TO RE-INSTALL THE ADJUSTER AFTER USE!

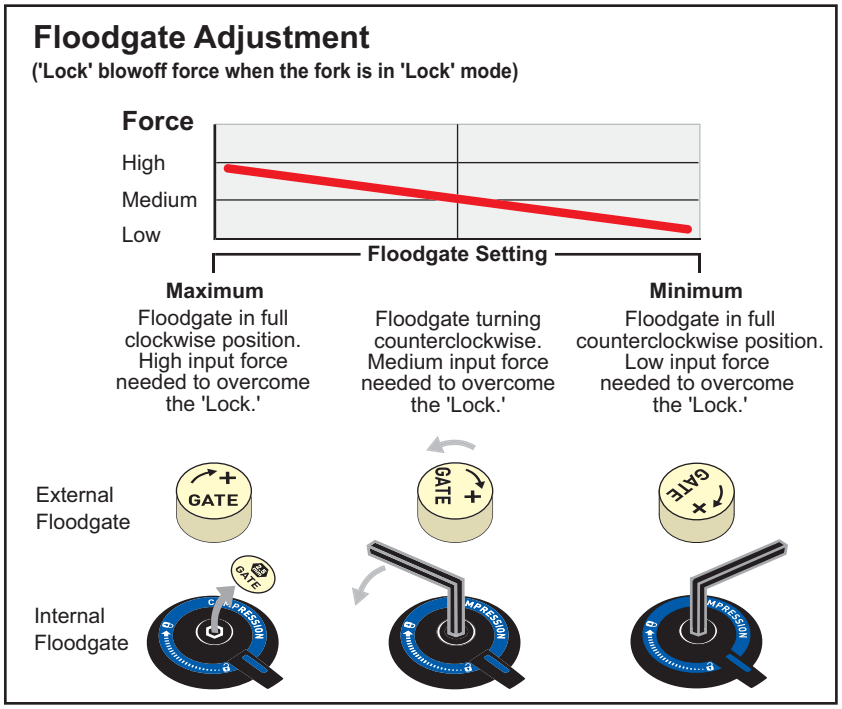


Fig. 3

COMPRESSION ADJUSTMENT (FIG. 4)

Some fork models also feature adjustable compression damping. Increased compression decreases fork movement in the 'Open' position. Compression adjustment can be used to help combat brake dive and "squatting" under hard cornering.

For crown activated forks, compression damping increases to 'Lock' as the crown-mounted actuator rotates 90 degrees clockwise. Position the actuator anywhere within the range from 'Open' to 'Lock' to suit the desired level of compression damping.

Forks equipped with the PopLoc Adjust provide compression damping adjustment for the 'Open' position. Turning the blue adjuster on the PopLoc adjust clockwise increases compression damping for the 'Open' position. The PopLoc lever features gradients to help illustrate the current level of compression. Eight complete turns of adjustment are provided.

TIP: ADJUSTING COMPRESSION ON FORKS EQUIPPED WITH POPLOC ADJUST IS BEST DONE WITH THE FORK IN 'LOCK' POSITION.

NOTE: THE COMPRESSION SETTING DOES NOT ADVERSELY EFFECT YOUR FORK'S PERFORMANCE OVER HIGH SPEED IMPACTS.

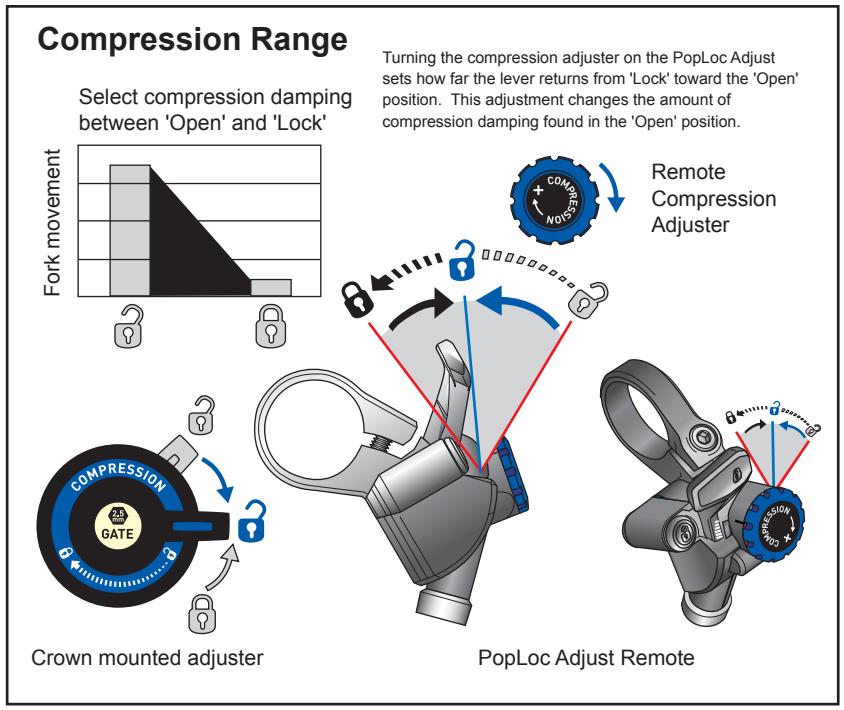

Compression Range
Turning the compression adjuster on the PopLoc Adjust sets how far the lever returns from 'Lock' toward the 'Open' position. This adjustment changes the amount of compression damping found in the 'Open' position.
Select compression damping between 'Open' and 'Lock'
Fork movement
Remote Compression Adjuster
COMPRESSION
GATE
Crown mounted adjuster
PopLoc Adjust Remote

Fig. 4

External Rebound Adjustment (Race, SL and XC models)

Rebound damping controls the speed at which a fork returns to its full extension following compression. Located at the bottom of the right fork leg is the rebound adjuster knob. Turning the adjuster in the direction indicated by the "rabbit" on the rebound speed decal decreases rebound damping, causing the fork to return to full extension faster. Turning the adjuster in the direction indicated by the "turtle" increases rebound damping, slowing the return of the fork to full extension.

Excessive rebound damping will cause the fork to "pack up" over successive bumps, reducing travel and causing the fork to bottom out. Set your fork to rebound as fast as possible without "topping out" or kicking back. This allows your fork to follow the contours of the trail, maximizing stability, traction and control.

U-TURN TRAVEL ADJUST (XC U-TURN MODELS)

Duke U-turn forks can be adjusted from 63 to 108 mm of travel. To determine the travel on your fork, use the travel gradients on the upper tube.

Changing Travel

Turning the U-turn adjuster knob counterclockwise increases travel. From minimum travel, there are approximately six turns to achieve maximum travel (108 mm). Each turn increases or decreases the travel by 7.5 mm (fig. 5).

IMPORTANT: STOP TURNING THE U-TURN ADJUSTER KNOB AFTER YOU HAVE REACHED 108 MM OF TRAVEL (MAXIMUM TRAVEL). TURNING THE KNOB PAST THIS POINT MAY CAUSE DAMAGE TO THE U-TURN FEATURE.

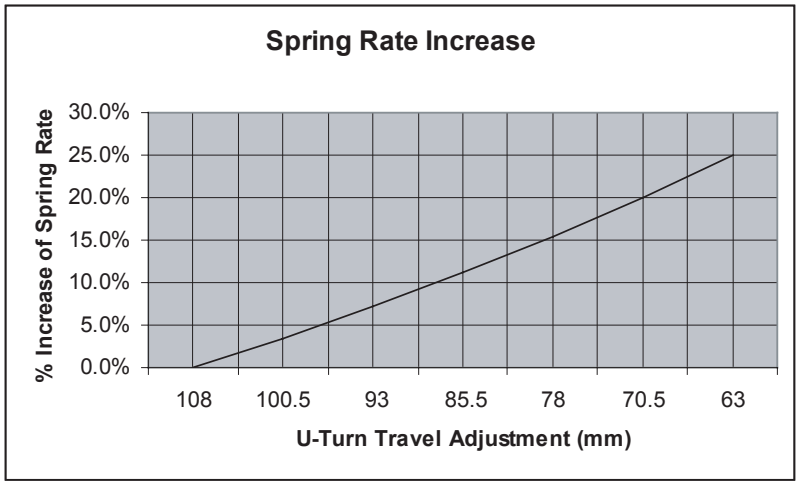


Fig. 5

FINE TUNING

Checking Sag

Sag is adjusted by increasing or decreasing the positive air pressure of your fork (less air equals more sag).

Setting Sag

Duke forks are designed to sag when you are sitting on your bike. Sag is the compression of the fork caused by the rider's weight. Proper sag allows the front wheel to follow the contour of the terrain as you ride.

To measure sag, use the travel indicator included with your fork or install a zip tie on the upper tube of the fork flush against the wiper seal. Sit on the bike with normal riding apparel. Step off the bike, and measure the distance between the wiper seal and the travel indicator or zip tie. This is your sag. The sag should be approximately 20 percent of the maximum travel.

ADDING POSITIVE AIR PRESSURE

Remove the air cap to expose the air valve. Using a RockShox Air Pump (with schrader valve), add the recommended air pressure (see “Air Pressure Guidelines").

NOTE: MAXIMUM RECOMMENDED AIR PRESSURE IS 180 PSI.

Checking Sag for Duke XC U-Turn

To measure sag, set the fork to maximum travel (108 mm). Install a zip tie on the upper tube of the fork flush against the wiper seal. Sit on the bike with normal riding apparel. Step off the bike, and measure the distance between the wiper seal and the zip tie. This is your sag. The sag should be approximately 20 percent of maximum travel. If you're unable to achieve optimum sag you may need to change the fork's spring.

CHANGING THE SPRING RATE

Spring rate is the amount of force needed to compress a spring one inch. Changing your fork's coil spring for a spring of a higher or lower rate will alter the overall feel of your fork. Higher spring rates make the fork feel more "stiff", while lower spring rates make the fork more "supple". Contact your local RockShox dealer to order replacement springs.

NOTE: WHEN DECREASING TRAVEL (SEE “U-TURN TRAVEL ADJUST”), YOU INCREASE THE SPRING RATE.

MAINTENANCE

To maintain the high performance, safety, and long life of your fork, periodic maintenance is required. If you ride in extreme conditions, maintenance should be performed more frequently.

* WE RECOMMEND THIS SERVICE BE PERFORMED BY A QUALIFIED BICYCLE MECHANIC. TO OBTAIN SERVICE INFORMATION OR INSTRUCTIONS, VISIT OUR WEBSITE AT **WWW.ROCKSHOX.COM** OR CONTACT YOUR LOCAL ROCKSHOX DEALER OR DISTRIBUTOR.

Torque Tightening Values

Top Caps	65 in-lb
Brake Posts	80 in-lb
Shaft Bolts	60 in-lb
U-Turn Knob Screw	12 in-lb
PopLoc Remote handlbar clamp bolt	20 in-lb
PopLoc Remote cable fixing bolt	8 in-lb

SERVICE INTERVALS	Duke XC	Duke SL	Duke Race
Clean dirt and debris from upper tubes	E	E	E
Inspect upper tubes for scratches	E	E	E
Lubricate dust seals/tubes	10	10	10
Check top caps, brake posts and shaft bolts for proper torque	25	25	25
Check air pressure	E	E	E
Remove lowers, clean/inspect bushings and change oil bath	50	50	50
Change oil in Motion Control System	100	100	100
Clean and lubricate Air U-Turn/Dual Air/Air Assist assembly	50	50	50
Clean and lubricate coil spring or coil U-Turn spring assembly	100	100	100
Clean and lubricate PopLoc cable and housing	50	50	50

Notes:

E = Every ride

Numeric values represent hours of riding time.

Increase service intervals based on rider weight, aggressive riding style/conditions, inclement weather and racing

SRAM CORPORATION WARRANTY

Extent of Limited Warranty

SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM component was purchased. Original proof of purchase is required.

Local law

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).
b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

Limitations of Liability

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, In no event Shall SRAM or its third party supplies be liable for direct, indirect, special, incidental, or consequential damages.

Limitations of Warranty

- This warranty does not apply to products that have not been incorrectly installed and/or adjusted according to the respective SRAM technical installation manual. The SRAM installation manuals can be found online at www.sram.com or www.rockshox.com.
- This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design.
- This warranty does not apply when the product has been modified.
- This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed.
- This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations and/or riding or installation in conditions or applications other than recommended.

WEAR AND TEAR PARTS ARE IDENTIFIED AS:

- Dust seals
- Air sealing o-rings
- Rubber moving parts.
- Rear shock mounting hardware and main seals
- Stripped threads/bolts (aluminium, titanium, magnesium or steel)
- Brake pads
- Sprockets
- Shifter and brake cables (inner and outer)
- Shifter grips
- Disc brake rotors
- Bushings
- Glide rings
- Foam rings
- Upper tubes (stanchions)
- Brake sleeves
- Chains
- Cassettes
- Handlebar grips
- Jockey wheels
- Tools

- This warranty shall not cover damages caused by the use of parts of different manufacturers.
- This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.